Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims

1. (Currently amended) A method for inspecting a specimen, comprising:

directing ultraviolet light to the specimen;

collecting light scattered from the specimen with a collection channel;

detecting light collected by the collection channel with multiple detection channels, wherein the detected light has a selected wavelength range, and wherein the wavelength range is selected such that light fluoresced from the specimen is not detected thereby reducing background signal representative of a surface of the specimen detected by the multiple detection channels and increasing the signal-to-noise ratio of the multiple detection channels; and

detecting features, defects, or light scattering properties of the specimen using signals representative of the detected light.

2. (Original) The method of claim 1, wherein the ultraviolet light comprises nearly monochromatic ultraviolet light.

3. (Canceled)

4. (Original) The method of claim 1, wherein the wavelength range comprises wavelengths within about 1 nm to about 10 nm of a wavelength of the ultraviolet light.

5.-6. (Canceled)

7. (Previously presented) The method of claim 1, wherein the light detected by the multiple detection channels has different selected wavelength ranges.

8. (Canceled)

9. (Previously presented) The method of claim 1, further comprising collecting light scattered from the specimen with an additional collection channel, wherein the collection and additional collection channels are arranged at different collection angles.

10. (Previously presented) The method of claim 1, further comprising collecting light scattered from the specimen with an additional collection channel and detecting light collected by the additional collection channel with at least one detection channel, wherein the collection and additional collection channels are arranged at different collection angles, and wherein the light detected by the multiple detection channels has the same selected wavelength range as the light detected by the at least one detection channel.

11.-12. (Canceled)

13. (Previously presented) The method of claim 1, further comprising classifying the features or defects using the signals representative of the detected light.

14. (Currently amended) A method for inspecting a specimen, comprising:

directing ultraviolet light to the specimen;

detecting light scattered from the specimen with one or more channels, wherein at least one of the one or more channels comprises two or more detectors, ~~and~~ wherein each of the two or more detectors has an independently selected wavelength

range, and wherein the wavelength range is selected such that light fluoresced from the specimen is not detected thereby reducing background signal representative of a surface of the specimen detected by the two or more detectors and increasing the signal-to-noise ratio of the two or more detectors; and

detecting features, defects, or light scattering properties of the specimen using signals representative of the detected light.

15. (Previously presented) The method of claim 14, further comprising classifying the features or defects using the signals representative of the detected light.

16. (Currently amended) A method for inspecting a specimen, comprising:

directing light having one or more incident wavelengths to the specimen;

collecting light scattered from the specimen with a collection channel;

separately detecting a first portion and a second portion of light collected by the collection channel substantially simultaneously with multiple detection channels, wherein the first ~~portion~~ and second portions ~~has~~ have a wavelength range selected such that the first ~~portion does~~and second portions do not include light fluoresced from the specimen~~, and wherein the second portion has a wavelength range selected such that the second portion comprises light fluoresced from the specimen~~ thereby reducing background signal representative of a surface of the specimen detected by the multiple detection channels and increasing the signal-to-noise ratio of the multiple detection channels; and

detecting features, defects, or light scattering properties of the specimen using signals representative of the first and second portions of the light.

17. (Canceled)

18. (Original) The method of claim 16, wherein the one or more incident wavelengths are ultraviolet wavelengths.

19. (Original) The method of claim 16, wherein the wavelength range of the first portion comprises wavelengths within about 1 nm to about 10 nm of the one or more incident wavelengths.

20.-21. (Canceled)

22. (Original) The method of claim 16, further comprising classifying the features or defects using an intensity of the first portion, an intensity of the second portion, or a combination thereof.

23. (Original) The method of claim 16, wherein said directing and said separately detecting are performed in a non-confocal mode.

24. (Original) The method of claim 16, wherein said directing and said separately detecting are performed in a darkfield mode.

25. (Currently amended) An inspection system, comprising:

an illumination subsystem configured to direct ultraviolet light to a specimen;

a collection channel configured to collect light scattered from the specimen;

multiple detection channels configured to detect light collected by the collection channel having a selected wavelength range, wherein the wavelength range is selected such that light fluoresced from the specimen is not detected thereby reducing

background signal representative of a surface of the specimen detected by the multiple detection channels and increasing the signal-to-noise ratio of the multiple detection channels; and

a processor configured to detect features, defects, or light scattering properties on the specimen using signals that are representative of the detected light.

26. (Previously presented) The system of claim 25, further comprising a second collection channel, wherein the collection channel and the second collection channel are arranged at different collection angles.

27. (Previously presented) The system of claim 26, further comprising second multiple detection channels configured to detect light collected by the second collection channel.

28. (Previously presented) The system of claim 25, wherein the multiple detection channels comprise different types of detectors.

29. (Previously presented) The system of claim 25, wherein the multiple detection channels comprise the same type of detectors.

30. (Previously presented) The system of claim 25, wherein one of the multiple detection channels comprises a bandpass filter, and wherein another of the multiple detection channels comprises an edge filter, a notch filter, or a combination thereof.

31. (Previously presented) The system of claim 25, wherein the multiple detection channels comprise one or more spectral filters, and wherein the one or more spectral filters are selected based on one or more materials of the specimen.

32.-34. (Canceled)

35. (Previously presented) The system of claim 25, wherein the multiple detection channels are configured to detect the light having different selected wavelength ranges.

36. (Previously presented) The system of claim 25, wherein the illumination subsystem and the multiple detection channels form a non-confocal optical subsystem.

37. (Previously presented) The system of claim 25, wherein the illumination subsystem and the multiple detection channels form a darkfield optical subsystem.